

Date: Thursday, 6/14/2007 10:28:38 AM
 User: Eric Charbonneau

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : BK117 SKIDTUBE ASSEMBLY
 Job Number : 32910
 Estimate Number : 12898
 P.O. Number :
 This Issue : 6/14/2007 S.O. No. :
 Prsht Rev. : NC
 First Issue : 1/1 Type : LANDING GEAR
 Previous Run :
 Written By : E 07.06.14
 Checked & Approved By :
 Comment : Est Rev:A 07.06.11 New Issue EC

Part Number : D117762041 A 08.07.10
 Drawing Number : D3582 REV 01
 Project Number : LG0005 FOR ENGINEERING USE ONLY
 Drawing Revision : 01 A
 Material :
 Due Date : 6/22/2007 Qty: 2 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operator

1.0

DC



Remove
 (2) D2965

Comment: DOCUMENT C
 Photocopy bl

2.0

D2962150



Comment: Qty.: 1.00

Pick:

Qty Part Number

1. D2962-150

エアロファシリティ株式会社
 Tel 03-5574-7655
 Extrusion B28612

CERTIFICATE OF CONFORMITY
 REQUIRED

(3)

3.0

LANDING GEAR 1



LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Determine square end of tube and deburr

2-Drill #30 pilot holes using DT8678. Do not open holes.

3-Deburr holes.

NIA DP
 7-6-19

4.0

BENDING



BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per program D3582 on CNC Bender and Dwg D3582. Use 5/16" locator pin on buggy "A".

DP
 7-6-19

CELESTIAL

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Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut Fwd end of the tube using DT8185

2-Cut Aft end at VC using DT8185

3-Deburr ends

4-Drill Aft Cap holes using DT8678 ***DO NOT OPEN AFT CAP HOLE***

5-Locate DT & Drill Ground wire hole on top of Tube.

6-Install 3/16 cleco in Ground wire hole, then drill all X-Bolt holes using 3/16" drill.

7-Drill pilot holes for wearplates using DT

8-Open wearplate holes and ground wire holes to Ø19/64" (0.297") as per Dwg D3582.

9-Open Aft Cap holes using 209" drill.

10-Deburr holes.

DP 7-6-19

DP 7-6-19

N/A

DP 7-6-19

DP 7-6-21

6.0

D2964

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Cap

Batch: B14101

BE 07-06-21

CERTIFICATE OF CONFORMITY
REQUIRED

7.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld fwd cap D2964 per dwg D3582 and QSI/004

A/R AL ROD

Batch: M104305/M102421/M104221 BE 07-06-21

2-Grind flush

BE 07-06-21

8.0

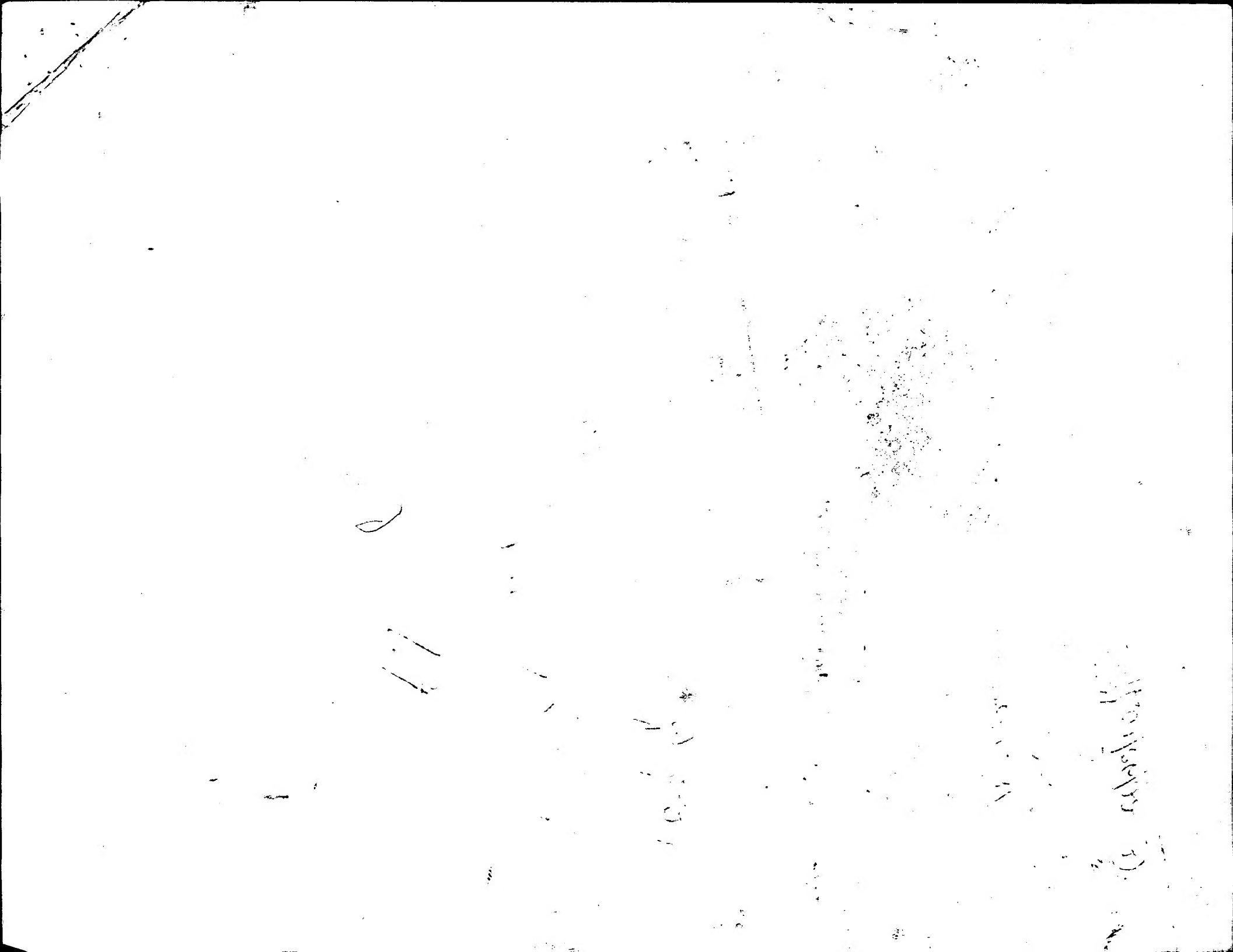
QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

12/07/06/22 (2)



Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

QC5

INSPECT WORK TO CURRENT STEP

**ENGINEERING
APPROVAL**



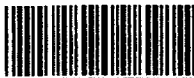
Comment: INSPECT WORK TO CURRENT STEP

BE 07-06-22

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

DP 7-6-22 (2)

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DP 7-6-22 (2)

12.0

D2973

Cross Bolt Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Cross Bolt Spacer

Batch: *B14636*

BE 07-06-25

**CERTIFICATE OF CONFORMITY
REQUIRED**

13.0

D35841

WEB



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

WEB

batch: B32911

**CERTIFICATE OF CONFORMITY
REQUIRED**

14.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open X-Bolt holes to .750"(4Places) as per Dwg D3582, section B-B

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex Batch: *M103561 / M104732*

Exp Date: *2-10-1 / 8-1-1*

5-Weld x-bolt spacers(D2973) as per Dwg D3582 section B-B.

A/R AL ROD

Batch: *M104305 BE 07-06-25*

6-Grind welds flush

DP 7-6-22
7-6-22
(2)

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description:

Tools: E

15.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

07/06/25 2

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07.06.25 2

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

BR/M 07-06-25

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 07/06/25 (2)

19.0

ALS71032130

Insert



Comment: Qty.: 38.0000 Each(s)/Unit Total: 76.0000 Each(s)

Insert

Batch: M103495

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Wearplate & Ground Wire inserts as per Dwg D3582.

FL/D 07/06/25 (2)

21.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect Inserts

07-06-25

This step not necessary

22.0

D2965

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Cap

Batch: B28959 BE 07-06-25

CERTIFICATE OF CONFORMITY
REQUIRED

Process Sheet

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Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

D35083

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

WEARPLATE

Batch: ~~B33016~~ B33020

CERTIFICATE OF CONFORMITY
REQUIRED

24.0

D35089

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

WEARPLATE

Batch: B33013

CERTIFICATE OF CONFORMITY
REQUIRED

25.0

D350811

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

WEARPLATE

Batch: B33011

CERTIFICATE OF CONFORMITY
REQUIRED

26.0

D350813

WEARPLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

WEARPLATE

Batch: B33012

CERTIFICATE OF CONFORMITY
REQUIRED

27.0

D35583

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B33021

CERTIFICATE OF CONFORMITY
REQUIRED

28.0

D35589

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B33016

CERTIFICATE OF CONFORMITY
REQUIRED

29.0

D355811

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B33014

CERTIFICATE OF CONFORMITY
REQUIRED

FL 07/06/25

(2)

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

30.0

D355813

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)
GASKET
Batch: B33015

CERTIFICATE OF CONFORMITY
REQUIRED

31.0

AN3C4A

BOLT



Comment: Qty.: 30.0000 Each(s)/Unit Total : 60.0000 Each(s)
BOLT
Batch: m103641

32.0

AN3C5A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)
Bolt
Batch: m104118

33.0

AN960C10L

washer



Comment: Qty.: 32.0000 Each(s)/Unit Total : 64.0000 Each(s)
washer
Batch: m102473

FL 07/06/25 (2)

34.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex Batch: m104732

Exp Date: 07/10

3-Install Wearplates as per Dwg D3582 ,

Note: Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

*****Do not install bolts where indicated on Dwg(Note #6)*****

A/R 241 Sika Flex Batch: m104732

Exp Date: 07/10

4- Wing Walk as per Dwg D3043 and QSI 005 4.4

m104733

FL 07/06/25 (2)

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Job Number: 32910

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

35.0

QC5

INSPECT WORK TO CURRENT STEP



**ENGINEERING
APPROVAL**



Comment: INSPECT WORK TO CURRENT STEP

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762-041

EC

Location

PPP Reg

FOR ENGINEERING USE ONLY

EC 07.06.24

37.0

QC21

FINAL INSPECTION/W/O RELEASE



FOR ENGINEERING USE ONLY



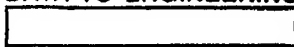
Comment: FINAL INSPECTION/W/O RELEASE

EC 07.07.09

Job Completion



PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING



U 07.07.09

FOR FURTHER INFORMATION

RECEIVED

DO NOT DRILL
PH 07.06.05

Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150 ✓	EXTRUSION
1	D2964 ✓	CAP
1	D2965 ✓	CAP
2	D2973 ✓	CROSS BOLT SPACER
1	D3508-3 ✓	WEARPLATE
1	D3508-9 ✓	WEARPLATE
1	D3508-11 ✓	WEARPLATE
1	D3508-13 ✓	WEARPLATE
1	D3558-3 ✓	GASKET
1	D3558-9 ✓	GASKET
1	D3558-11 ✓	GASKET
1	D3558-13 ✓	GASKET
1	D3584-1 ✓	WEB
38	AELS-1032-130 ✓	INSERT
30	AN3C4A ✓	BOLT
2	AN3C5A ✓	BOLT
32	AN960C10L ✓	WASHER

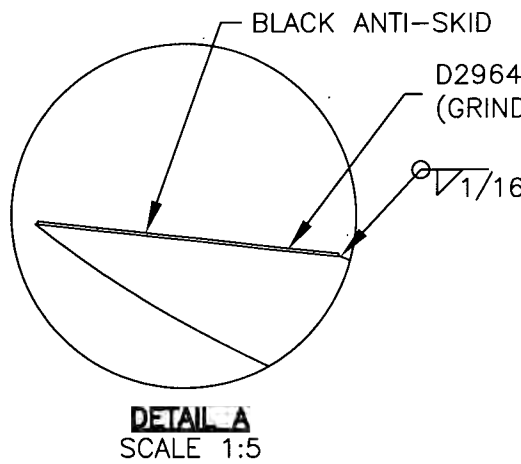
GENERAL NOTES:

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) WELDING TO BE DONE PER DART QSI 004.
- 4) INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 5) USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL $\varnothing 0.297$ HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION B-B (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- 6) DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- 7) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4 (OPTIONAL)

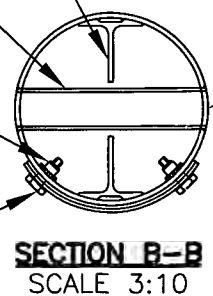
EST
Done
(017-762-041)
041

DO NOT DRILL
PH 07.06.05

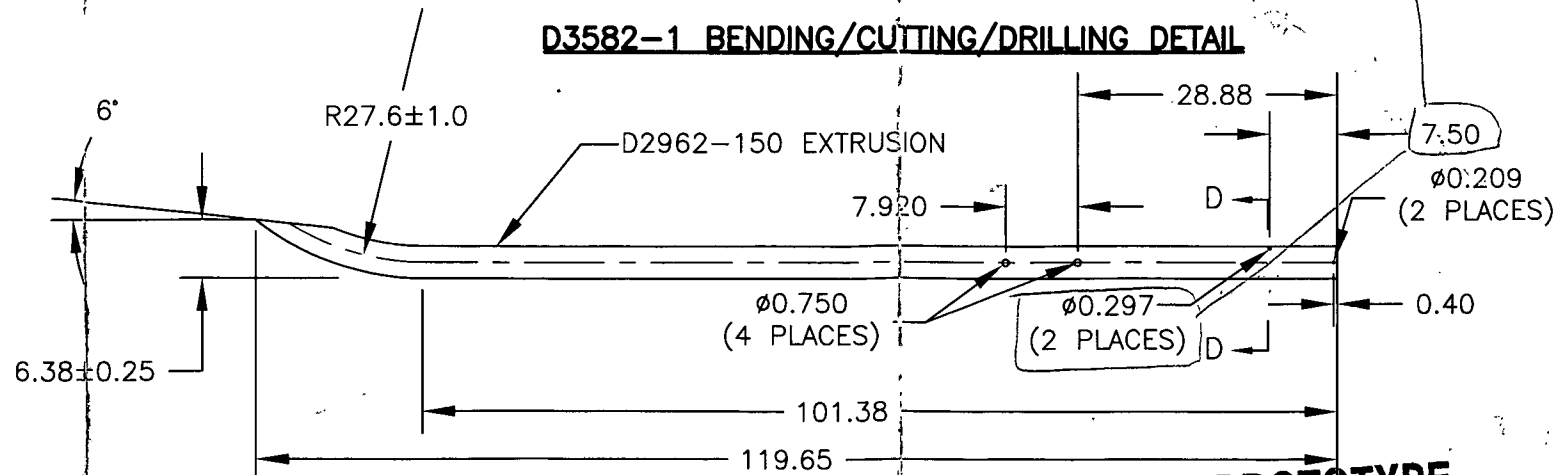
AFTER FINISH, INSTALL
AELS-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(2 PLACES)



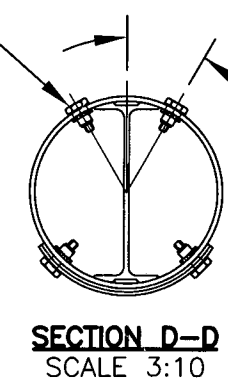
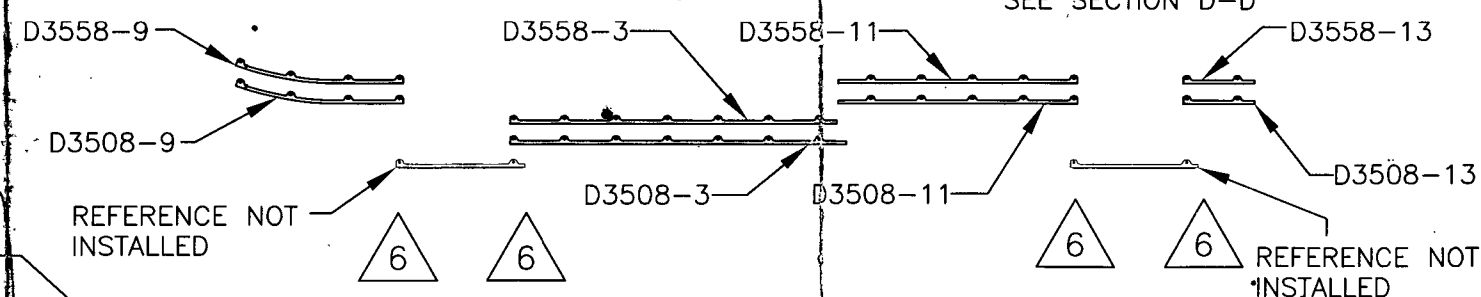
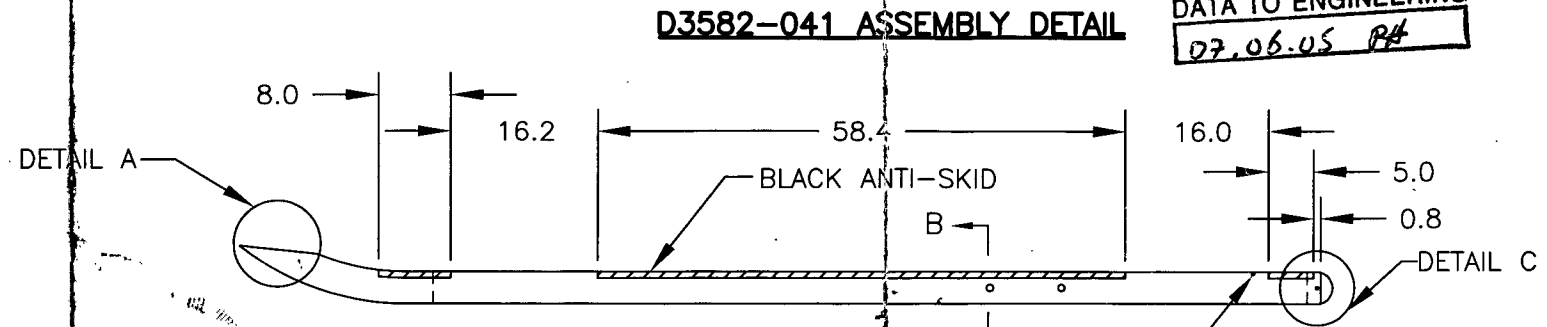
- D3584-1 WEB (REF)
- D2973 SPACER
- 5 AELS-1032-130 INSERT (36 PLACES)
- 5 AN3C4A BOLT (1)
AN960C10L WASHER (1)
(28 PLACES)



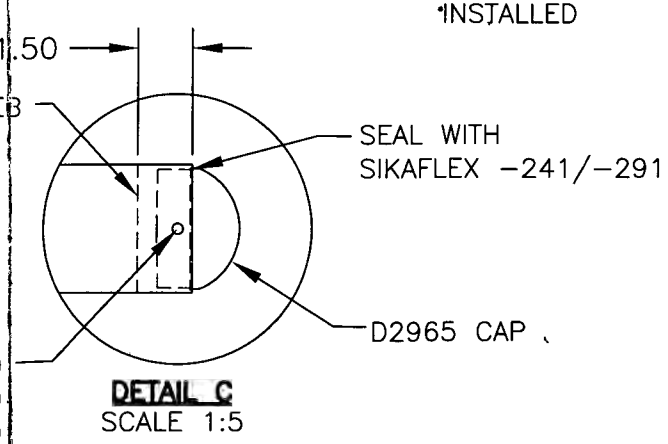
- AFTER BENDING AND DRILLING ASSEMBLY PERFORM THE FOLLOWING FOR $\varnothing 0.750$ HOLES ONLY:
1. CHAMFER HOLE $0.030 \times 45^\circ$
 2. INSERT D2973 SPACER (2 PLACES)
 3. WELD INTO PLACE AND GRIND FLUSH
 4. PASS $\varnothing 0.630$ DRILL TO REMOVE SPILL OVER



PROTOTYPE
PLEASE RETURN ALL ISSUED
DATA TO ENGINEERING
07.06.05 PH



- D3558-9
- D3508-9
- D3558-3
- D3508-3
- D3558-11
- D3508-11
- D3558-13
- D3508-13
- REFERENCE NOT INSTALLED
- 6
- 6
- 6
- 6
- REFERENCE NOT INSTALLED



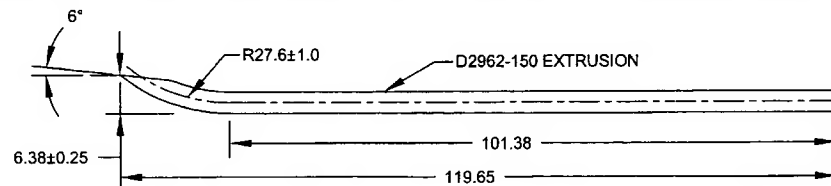
A		07.04.20	NEW ISSUE	
DESIGN		DRAWN BY		DART DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED		APPROVED		
DATE		TITLE		REV. A
07.04.20		BK 117 SKIDTUBE ASSEMBLY		SHEET 1 OF 1
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PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

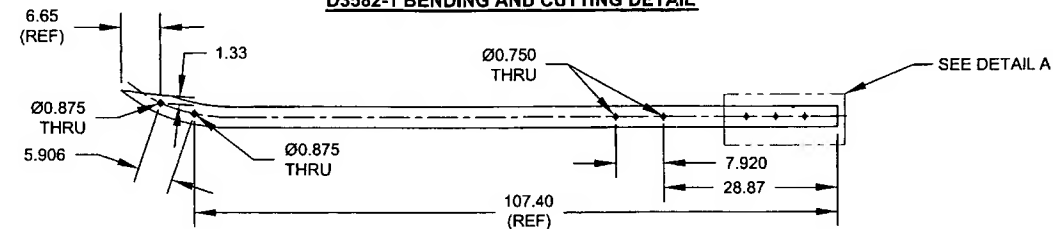
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-053	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

GENERAL NOTES:

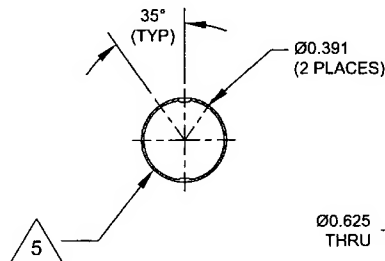
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004.
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
 - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB.
 - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
 - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4



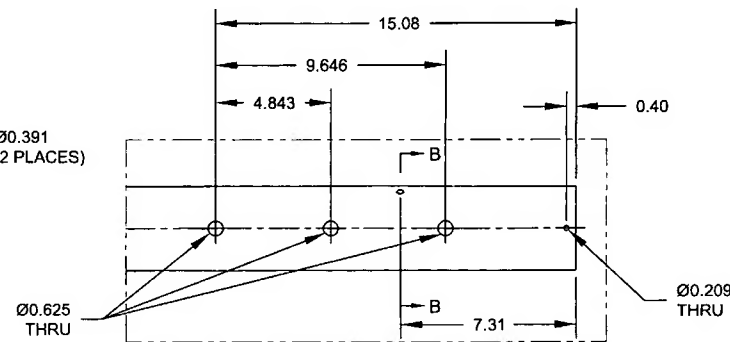
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B
SCALE 1:5



DETAIL A
SCALE 1:5

RELEASED
07-11-2010

A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DA		
DRAWN	DA		
CHECKED	DA		
MFG. APPR.	DA		
APPROVED	DA		
DE APPR.	DA		
DATE	07.06.08		

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32910 BO 08.07.10

